

I claim:

1. A pole piece for a loudspeaker assembly, comprising:

a cylindrical body having an end face;

said end face having a blind recess with a circumferential wall; and

said circumferential wall having heat-dissipating ribs.

2. The pole piece according to claim 1, wherein:

said body has a longitudinal axis; and

said ribs are aligned with said longitudinal axis.

3. The pole piece according to claim 1, wherein said ribs are equispaced around said circumferential wall.

4. The pole piece according to claim 1, wherein:

said body has a longitudinal axis; and

said ribs are evenly spaced about said longitudinal axis.

5. The pole piece according to claim 1, wherein a

circumferential mark to space ratio of said ribs to gaps therebetween is approximately 1:1.

6. The pole piece according to claim 1, wherein:

said ribs define gaps therebetween;

said ribs have a given width;

said gaps have a set width; and

a ratio of said given width to said set width is substantially 1:1.

7. The pole piece according to claim 1, wherein said blind recess has a taper decreasing in diameter away from said end face.

8. The pole piece according to claim 7, wherein said ribs have a taper.

9. The pole piece according to claim 8, wherein said taper of said ribs corresponds to said taper of said blind recess.

10. The pole piece according to claim 7, wherein each of said ribs has a trapezoidal shape with respect to a horizontal

cross-section through said body.

11. The pole piece according to claim 10, wherein each of said ribs has a radially sloping inner face and sloping side faces.

12. The pole piece according to claim 1, wherein each of said ribs has a trapezoidal shape with respect to a horizontal cross-section through said body.

13. The pole piece according to claim 12, wherein each of said ribs has a radially sloping inner face and sloping side faces.

14. The pole piece according to claim 1, wherein each of said ribs has a radially sloping inner face and sloping side faces.

15. The pole piece according to claim 1, wherein:

said body has a longitudinal length; and

said blind recess has a depth approximately half of said longitudinal length.

16. The pole piece according to claim 1, wherein said body is forged.

17. The pole piece according to claim 1, wherein said ribs extend radially inward from said circumferential wall.

18. A pole piece according to claim 1, wherein the ribs comprise alternate ribs such that there are radially longer ribs and radially shorter ribs.

19. A pole piece according to claim 18, wherein the radially longer ribs are approximately twice as long as the radially shorter ribs.

20. A pole piece according to claim 18, wherein each rib has a radial taper, decreasing in width away from the circumferential wall, and with that radial taper of the longer ribs being greater than the radial taper of the shorter ribs.

21. A pole piece for a loudspeaker assembly, comprising:

a forged cylindrical body having an end face;

said end face having a blind recess;

said blind recess having a tapered circumferential wall decreasing in diameter away from said end face; and

said circumferential wall having heat-dissipating ribs tapered in a shape corresponding to a taper of said circumferential wall.

22. A loudspeaker assembly, comprising:

a housing;

a diaphragm supported by said housing;

a moving coil coupled to said diaphragm;

a permanent magnet encircling said coil;

a pole piece having an end face communicating with ambient atmosphere;

said pole piece at least partially disposed within said coil;  
and

said end face having a blind recess with a circumferential wall having heat-dissipating ribs.

23. The loudspeaker assembly according to claim 21, wherein a portion of said pole piece having said ribs is substantially co-extensive with said coil.

24. The loudspeaker assembly according to claim 21, wherein:

said circumferential wall has a wall span;

said coil has a travel path; and

said wall span is disposed substantially within said travel path.

25. A loudspeaker assembly, comprising:

a housing;

a diaphragm supported by said housing;

a moving coil having a travel path;

said moving coil coupled to said diaphragm;

a permanent magnet encircling said coil;

a forged pole piece having an end face communicating with ambient atmosphere;

said pole piece at least partially disposed within said coil;

said end face having a blind recess with a tapered circumferential wall decreasing in diameter away from said end face;

said circumferential wall having heat-dissipating ribs tapered in a shape corresponding to a taper of said circumferential wall; and

said circumferential wall having a wall span disposed substantially within said travel path.

26. In a loudspeaker having a housing, a diaphragm supported by the housing, a moving coil coupled to the diaphragm, a permanent magnet encircling the coil, a pole piece comprising:

a cylindrical body having an end face communicating with ambient atmosphere;

said cylindrical body at least partially disposed within the coil; and

said end face having a blind recess with a circumferential wall having heat-dissipating ribs.